



Feed the Future Country Fact Sheet

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Scientific Animations Teach Cowpea Insect Pest Management to Farmers



Grain Legumes Innovation Lab

Bernadette Koussoube, a cowpea farmer in Burkina Faso, has planted her single hectare cowpea field for the past ten years, but she has yet to harvest enough to sufficiently support or feed her family. Among the biggest obstacles she faces are insect pests, including the pod borer, which can decimate 20 – 80 percent of a cowpea crop.

The high cost of commercial insecticides has made this problem seemed insurmountable to smallholder farmers, but the Feed the Future Innovation Lab for Grain Legumes, led by Michigan State University, is piloting an affordable solution. The Lab has combined Neem oil, produced from the seeds of the ubiquitous Neem tree, with a virus that attacks the pod borer. When applied at key points in the cropping cycle, the natural insecticide suppresses all cowpea pests, resulting in better yields.

“The mixture is easy to make and the ingredients readily available,” notes Grain Legumes Innovation Lab researcher Barry Pittendrigh. “We just needed an effective way to teach smallholder farmers the techniques so they could use it.” With variable literacy levels and multiple languages spoken throughout the region, the Lab had to devise how to scale up this cost-effective and sustainable pest solution.

Pittendrigh’s team took a creative approach to this problem, ultimately designing a series of high-quality educational animated videos that can convey specialized knowledge in an accessible, visual way to smallholders. Using voice-over technology, the same easy-to-understand video content can be used throughout countries and regions by simply changing the narrative language.

These animations can be produced relatively cheaply and, most importantly, downloaded and viewed on cell phones. Given that 60 percent of all cell phone users live in the developing world, a mobile-friendly approach to extension is one critical strategy for reaching remote villages.

Pittendrigh’s first animations focused on pest management for cowpeas.

“I learned from the video how Neem extracts can control insects such as aphids and cowpea pod bugs,” says Balki Laouali, a smallholder farmer in Niger. Laouali’s neighbor, Tadjaji Lihida, plans to share the video with other farmers to teach them how to prepare the extract.

Following this early success, Pittendrigh realized the video teaching system could be applied across many topics.

“In 2011 we launched Scientific Animations Without Borders, or SAWBO, to create animated videos and share useful research

knowledge where such access is limited,” says Pittendrigh.

SAWBO creates animations with the help of global experts who volunteer their services, including translated voice-overs and fact checking. Completed animations are free for educational purposes and made available to outside groups through online and offline deployment systems. A simple Bluetooth® transfer allows neighbors to spread the material easily.

More than 40 different SAWBO videos are currently available throughout the world, some in dozens of different languages and dialects.

“There is no one-size-fits all approach to the use of these videos,” says Pittendrigh. “It is amazing to see the creative ways in which groups have used SAWBO animations in their educational programs. In the final analysis, people in developing countries can now access state-of-the-art, applicable science right in their fields—and apply it almost immediately.”

[Watch SAWBO's scientific animation videos.](#)